

Remarks

On entry of this response, claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 are pending in the instant application, of which claims 8, 15, 20, 26, 33, 40 and 45 are independent. In view of the arguments set forth below, Applicants respectfully request reconsideration of the outstanding rejections and passage of the pending claims to allowance.

I. Summary of Rejections

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter and as failing to comply with the utility requirement.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §103(a) as being unpatentable over WO 03/001891 (hereinafter “Kelly *et al.*”).

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 and 45-47 of US copending Application No. 10/783624 in view of Kelly *et al.*

These rejections will be discussed separately below.

II. Claim Rejections under 35 U.S.C. §101

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter. (See the Office Action, page 2).

A. Useful Result

The Examiner asserts that “[t]he instant claims do not produce a useful result,” and “[t]he specification does not assert a specific, substantial and credible use for the ‘dynamic behavior’ generated.” (See the Office Action, page 4).

Applicants submit that the claims of the present application produce a useful result. The claims of the instant application relate to modeling a system and determining the dynamic behavior of the system by executing the model. Such modeling allows a user to understand behavior of systems and how changes in parameters modify behavior of the systems. The ability to simulate a system by executing a model of the system is cheaper and less time consuming than building a physical system. Therefore, Applicants submit that computer modeling and simulation of a system has a practical utility.

Applicants also submit that the instant application discusses a specific, substantial and credible use for the dynamic behavior of a model in numerous places. For example, the instant application recites:

“However, some reactions are defined to be a continuous-time system. For these reactions, event scheduling occurs at time intervals that are determined by the simulation engine to minimize accumulation of errors. These reactions require use of variable-step solvers, which are designed to model continuous systems where non-evenly spaced time steps are needed to simulate all significant behavior. For example, one may want to simulate the path of a bouncing ball, where it bounces, how high it bounces, and where it stops. It is known, based on experience, that the ball's bounces will not be evenly spaced, and that the height of the bounces will diminish as a result of gravity, friction, and other forces. Variable-step solvers are used for these types of continuous systems and to determine what step size to use so that the behavior of the ball will be accurately modeled.”

(Page 23, lines 25-34). In the above description, the instant application provides the specific example of the dynamic behavior, such as the path of a bouncing ball. The instant application also recites:

In other words, the simulation engine 120 generates the dynamic behavior of the model and communicates at least some of this

dynamic behavior to the analysis environment. The analysis environment 130 may provide refinements to a model in the modeling environment 110 and may provide parameters for use by the simulation engine 120 when executing a model. The interaction between the modeling environment 110, the simulation engine 120, and the analysis environment 130 will be discussed in more detail below.

(Page 5, line 28 through page 6, line 5). In the above description, the instant application describes that the behavior of a model is used to refine the model so that the model represents a dynamic system more accurately. Applicants submit that the dynamic behavior of a model is a specific, substantial and credible result that can be used to refine the model.

For reasons set forth above, Applicants respectfully submit that the claims of the instant application produces a useful, concrete and tangible result. Therefore, Applicants request that the 35 U.S.C. §101 rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

B. Article of Manufacture

With respect to claims 15-18, 40-43 and 77-81, the Examiner asserts that “the claims are drawn to a computer readable medium,” and “computer readable medium includes carrier wave, which is a signal.” (See the Office Action, page 4).

Applicants respectfully submit that claims 15-18, 40-43 and 77-81 are directed to an “article of manufacture,” which is well established as being statutory subject matter. 35 U.S.C. §101. Claims 15-18, 40-43 and 77-81 are not directed to a signal or a medium.

For reasons set forth above, Applicants respectfully submit that claims 15-18, 40-43 and 77-81 are directed to statutory subject matter. Therefore, Applicants request that the 35 U.S.C. §101 rejection of claims 15-18, 40-43 and 77-81 be withdrawn.

C. Utility Requirement

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as failing to comply with the utility requirement. (See the Office Action, page 6).

The Examiner asserts that “the instant claims do not produce a useful result,” and “[t]he specification does not assert a specific, substantial and credible use for the ‘dynamic behavior’ generated.” (See the Office Action, page 7). As was discussed above, the claims of the instant application produce a useful result and the instant application provides the description for the specific, substantial and credible use of the dynamic behavior. Applicants respectfully submit that the dynamic behavior of a model is a useful result.

For reasons set forth above, Applicants respectfully submit that the claims of the instant application complies with the utility requirement. Therefore, Applicants request that the 35 U.S.C. §101 rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

III. Claim Rejections under 35 U.S.C. §112, First Paragraph

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. (See the Office Action, page 7).

The Examiner asserts that “the claimed invention lacks a patentable utility due to its not being supported by a specific, substantial, and credible utility.” (See the Office Action, page 7).

As discussed above in II.A and II.C, the instant application describes the examples of the dynamic behavior. The instant application also describes that the behavior of a model is used to refine the model so that the model represents a dynamic system more accurately. The instant application supports the specific, substantial, and credible utility of the claims.

For reasons set forth above, Applicants respectfully submit that the claims of the instant application complies with the written description requirement. Therefore, Applicants request that the 35 U.S.C. §112, first paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

IV. Claim Rejections under 35 U.S.C. §103(a)

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kelly *et al.* (See the Office Action, page 9). Applicants respectfully traverse the rejection.

A. Claims 8, 15, 20, 26, 33, 40 and 45

Applicants respectfully submit that Kelly *et al.* fails to teach or suggest at least the following feature of claims 8, 15, 20, 33, 40 and 45: ***the constructed model is modified by user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface***, and the following feature of claim 26: ***the constructed model being modified by user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface***.

The Examiner recognizes that “Kelly et al. do not explicitly teach modifying the constructed model by user command received through both a graphical user interface and a textual interface.” (See the Office Action, page 10). The Examiner, however, contends that:

“Kelly et al. do state on page 11 that their ‘model can be modified to reflect.... The regions of interface can, for example, include’ This indicates that their model can be identified and interface is used. Kelly et al. disclose that the computer system used for their modeling comprises a video display on which a user interface is displayed, which is interpreted as a graphical interface, and a network interface, which is interpreted as a textual interface, given the indefiniteness for the terms graphical interface and textual interface and the entire limitation set forth above in the rejection under 35 USC 112, second paragraph above.”

(Office Action, page 10).

Applicants respectfully submit that the Examiner's assertion that the video display (108) and the network interface (118) described in Kelly *et al.* correspond to the graphical user interface and the textual interface recited in claims 8, 15, 20, 26, 33, 40 and 45, respectively, is misplaced for at least the reasons set forth below.

In Kelly *et al.*, the video display (108) can be a liquid crystal display (LCD) or cathode ray tube (CRT) and a user interface can be displayed on the video display (108). (See Kelly *et al.*, page 12, line 31 through page 13, line 2). Kelly *et al.*, however, does not teach or suggest that the user interface is a graphical user interface. There is no disclosure in Kelly *et al.* that the user interface displayed in the video display (108) is a graphical user interface that receives user commands to modify a model.

With regard to the network interface device (118), Kelly *et al.* describes that "[t]he software 120 can also be transmitted or received via the network interface device 118." (See Kelly *et al.*, page 13, lines 7-8). Kelly *et al.*, however, does not teach or suggest that the network interface device (118) is used to receive user commands to modify a model. In Kelly *et al.*, the network interface device (118) is used to transmit or receive software (120). The network interface device (118) described in Kelly *et al.* can not be interpreted as a textual interface that receives user commands to modify a model.

Furthermore, Applicants submit that the feature that ***the constructed model is modified by user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface*** is not obvious over prior art. The fact that a computer model is executed by computer-executable software code does not necessarily make it obvious to modify a computer model using both a graphical user interface and a textual interface. Modifying a computer model using both a graphical user interface and a textual interface gives a user a choice of using the type of interface with which the user is most comfortable. No prior art references teach or show that a computer model is modified using both a graphical user interface and a textual interface. Conventional systems, at best, provide a single type of interface.

In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 8, 15, 20, 26, 33, 40 and 45 be withdrawn.

B. Claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87

Claims 9-12 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 9-12 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 9-12.

Claims 16-18 depend on base claim 15 and, as such, incorporate all of the features of claim 15. Accordingly, claims 16-18 are novel for at least the reasons set forth above with respect to claim 15. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 16-18.

Claim 22 depends on base claim 20 and, as such, incorporates all of the features of claim 20. Accordingly, claim 22 is novel for at least the reasons set forth above with respect to claim 20. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claim 22 be withdrawn.

Claims 27-30 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 27-30 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 27-30 be withdrawn.

Claims 34-37 depend on base claim 33 and, as such, incorporate all of the features of claim 33. Accordingly, claims 34-37 are novel for at least the reasons set forth above with respect to claim 33. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 34-37 be withdrawn.

Claims 41-43 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 41-43 are novel for at least the reasons set forth above with respect to claim 40. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 41-43 be withdrawn.

Claim 47 depends on base claim 45 and, as such, incorporates all of the features of claim 45. Accordingly, claim 47 is novel for at least the reasons set forth above with respect to claim 45. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claim 47 be withdrawn.

Claims 52-63 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 52-63 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 53-63 be withdrawn.

Claims 64-67 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 64-67 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 64-67 be withdrawn.

Claims 77-87 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 77-87 are novel for at least the reasons set forth above with respect to claim 40. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 77-87 be withdrawn.

Furthermore, Applicants respectfully submit that Kelly *et al.* does not teach or suggest “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77. There is no disclosure in Kelly *et al.* of “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77.

Furthermore, Applicants respectfully submit that Kelly *et al.* does not teach or suggest “automatically connecting elements of the model,” as recited in claims 53, 65 and 78. There is no disclosure in Kelly *et al.* of “automatically connecting elements of the model,” as recited in claims 53, 65 and 78.

As such, Applicants request that the rejection of claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87 be withdrawn.

V. Double Patenting Rejections

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 and 45-47 of US copending Application No. 10/783624 (Attorney Docket No. MWS-110RCE) in view of Kelly *et al.* Applicants submit a terminal disclaimer and request withdrawal of the double patenting rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87.

VI. Conclusion

In view of the above comments, Applicants believe that the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-108RCE. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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